

News

KIDSTON ON TRACK

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EVERYONE knows the reliability issues with solar power. There are only limited sunlight hours each day.

However, a North Queensland project has a solution. It's hoped Genex Energy's Kidston development, about 270km northwest of Townsville, will become a combined solar and hydro project.

Stage one of the project, a 50-megawatt solar farm, has been built at the ex-gold mine site, that was one of the biggest in Australia. The gold mine closed in 2001 but was not forgotten.

Genex executive director Simon Kidston said the company's strategy was to create a renewable energy hub at the abandoned mine site.

The hub is being built in two stages with the first completed in November last year.

"We've just finished the testing and commissioning and now we're at the start of the commercial operation phase," Mr Kidston said.

"The project was built on time and on budget and it's demonstrated that this site is uniquely placed to create a renewable energy hub, leveraging all of the infrastructure left behind from the gold mine." Mr Kidston said there were numerous advantages of repurposing the mine site. "There was a transmission line that was built for the mine that was built in the '80s, that goes all the way from the gold mine to Ross, which is just on the outskirts of Townsville," he said.

"So we tapped into that substation and the power basically supplies Townsville and the surrounding areas." Besides the transmission line, Mr Kidston said the mine's owners walked away from a 300-man accommodation camp, an airstrip, plenty of land and roads to and from the site. The site also came with existing environmental permits.

"The biggest risks slowing projects down ... is going through all the complexities of permits and because we had a permit in place already, that meant we could turbocharge the development of stage one," Mr Kidston said.

However, perhaps the most important bonus from the mine are the two open cut pits, which were flooded with water when the site closed.

"All the water we need for the hydro operations is there already but if we ever need more water because of evaporation or drought, there's a pipeline that goes to the Copperfield Dam," Mr Kidston said.

There is a 300m height differential between the water levels of the two reservoirs, something perfect for a hydro energy project. Mr Kidston said solar and wind projects were only as good as when the sun shone and the wind blew.

The idea of having the pump storage hydro and solar plant in one place is they work together. Put simply, water falls from the higher reservoir into the lower one, through a turbine, which generates power. "Basically when demand for electricity is low, which is traditionally between midnight and dawn, price is also low in the wholesale markets," Mr Kidston said.

"Power is then used from the grid to pump water from the lower reservoir to the upper reservoir and it then sits there and waits, usually until the morning peaks.

"That's when you can release the water through the same tunnel and turbines to generate power." It's not new technology; this is how the Snowy Mountains Scheme works but that was on a much larger scale. There is a uniqueness to this project though.

"Instead of using power from the grid, we've got our own solar farm to provide the power (to pump the water)," Mr Kidston said. "It turns an intermittent renewable energy source, being solar, into something that's dispatchable and reliable." Mr Kidston said Genex was on track to start construction on stage two later this year. It's hoped a final investment decision will be made in September this year.

If it goes ahead, Mr Kidston said there was potential for 500 people to work on the project. The Federal Government's Australian Renewable Energy Agency supported stage one of the Kidston project.

In November last year ARENA announced \$5 million in funding to support pre-financial close activities for stage two.

In April the company revealed there could be even more to the project. Genex Power signed a heads of agreement with local landholders with the exclusive option to develop a new wind farm project which would be stage three.

The company will start a detailed feasibility study to assess and determine the technical and economic feasibility of constructing and operating a wind farm of up to 150MW at Kidston.